

Exploring the Extreme			
2009 Science			
Academic Standards			
Minnesota Science			
Grade 1			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Rulers	MN	SCI.1.1.1.1.1.1	When asked "How do you know?," students support their answer with observations.
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2009 Science			
Academic Standards			
Minnesota Science			
Grade 2			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Rulers	MN	SCI.2.2.1.1.2.1	Raise questions about the natural world and seek answers by making careful observations, noting what happens when you interact with an object, and sharing the answers with others.
Finding the Center of Gravity Using Rulers	MN	SCI.2.2.2.2.2.1	Describe how push and pull forces can make objects move.
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2009 Science			
Academic Standards			
Minnesota Science			
Grade 3			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Rulers	MN	SCI.3.3.1.1.2.1	Generate questions that can be answered when scientific knowledge is combined with knowledge gained from one's own observations or investigations.
Finding the Center of Gravity Using Rulers	MN	SCI.3.3.1.1.2.4	Construct reasonable explanations based on evidence collected from observations or experiments.
Finding the Center of Gravity Using Plumb Lines	MN	SCI.3.3.1.1.2.1	Generate questions that can be answered when scientific knowledge is combined with knowledge gained from one's own observations or investigations.
Finding the Center of Gravity Using Plumb Lines	MN	SCI.3.3.1.1.2.4	Construct reasonable explanations based on evidence collected from observations or experiments.
Changing the Center of Gravity Using Moment Arms	MN	SCI.3.3.1.1.2.1	Generate questions that can be answered when scientific knowledge is combined with knowledge gained from one's own observations or investigations.

Changing the Center of Gravity Using Moment Arms	MN	SCI.3.3.1.1.2.4	Construct reasonable explanations based on evidence collected from observations or experiments.
Changing the Center of Gravity Using Moment Arms	MN	SCI.3.3.1.3.4.1	Use tools, including rulers, thermometers, magnifiers and simple balances, to improve observations and keep a record of the observations made.
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Academic Standards			
Minnesota Science			
Grade 4			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Rulers	MN	SCI.4.4.2.1.1.1	Measure temperature, volume, weight and length using appropriate tools and units.
Finding the Center of Gravity Using Plumb Lines	MN	SCI.4.4.2.1.1.1	Measure temperature, volume, weight and length using appropriate tools and units.
Changing the Center of Gravity Using Moment Arms	MN	SCI.4.4.2.1.1.1	Measure temperature, volume, weight and length using appropriate tools and units.
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Academic Standards			
Minnesota Science			
Grade 5			
Activity/Lesson	State	Standards	
Jet Propulsion	MN	SCI.5.5.1.1.1.4	Understand that different models can be used to represent natural phenomena and these models have limitations about what they can explain.
Jet Propulsion	MN	SCI.5.5.2.2.1.1	Give examples of simple machines and demonstrate how they change the input and output of forces and motion.
Vectoring	MN	SCI.5.5.1.1.1.1	Explain why evidence, clear communication, accurate record keeping, replication by others, and openness to scrutiny are essential parts of doing science.
Vectoring	MN	SCI.5.5.1.1.1.4	Understand that different models can be used to represent natural phenomena and these models have limitations about what they can explain.
Vectoring	MN	SCI.5.5.1.1.2.1	Generate a scientific question and plan an appropriate scientific investigation, such as systematic observations, field studies, open-ended exploration or controlled experiments to answer the question.

Vectoring	MN	SCI.5.5.1.3.4.1	Use appropriate tools and techniques in gathering, analyzing and interpreting data.
Center of Gravity, Pitch, Yaw	MN	SCI.5.5.1.1.2.2	Identify and collect relevant evidence, make systematic observations and accurate measurements, and identify variables in a scientific investigation.
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Academic Standards			
Minnesota Science			
Grade 7			
Activity/Lesson	State	Standards	
Vectoring	MN	SCI.7.7.1.1.1.2	Understand that when similar investigations give different results, the challenge is to judge whether the differences are significant, and if further studies are required.
Vectoring	MN	SCI.7.7.1.1.2.4	Evaluate explanations proposed by others by examining and comparing evidence, identifying faulty reasoning, and suggesting alternative explanations.
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Academic Standards			
Minnesota Science			
Grade 8			
Activity/Lesson	State	Standards	
Vectoring	MN	SCI.8.8.1.1.2.1	Use logical reasoning and imagination to develop descriptions, explanations, predictions and models based on evidence.
Center of Gravity, Pitch, Yaw	MN	SCI.8.8.1.1.2.1	Use logical reasoning and imagination to develop descriptions, explanations, predictions and models based on evidence.